AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

SUPPLYING THE WARFIGHTER--IS SURPLUS AN ANSWER?

by

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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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Preface

I thank Captain Larry Vadala, USN, DSCR Director of Procurement, for sponsoring this research effort and Ms. Eileen Wilck, a member of the DSCR procurement staff, for her invaluable assistance and for being my interface to the DSCR community. Additionally, I thank Mr. Peter Beaulieu, Vice President of the National Association of Aircraft and Communication Suppliers (NAACS) and President of Associated Aircraft Manufacturing and Sales, Inc. (AAMSI), for providing the excellent services of Mr. Gene Vandevoir who collected the commercial surplus data used during the research effort. Finally, I thank my faculty research advisor, Lt Col Anida G. Wishnietsky, USAF, for her continuously optimistic guidance and assistance.

Abstract

This report addresses whether DOD policies and practices related to the procurement of surplus are effective and efficient. In order to limit the scope of the research, an analysis of the Defense Logistics Agency's (DLA's) Defense Supply Center Richmond's (DSCR's) acquisition workload was selected for analyses. DLA is responsible for 86 percent of all DOD consumable items and 55 percent of all federally stocked items. DLA annually provides DOD and other Federal agencies with 4.1 million items valued at \$12 billion in support of 1400 weapons systems. As one of the four Inventory Control Points (ICPs) within DLA, DSCR is the lead center for air, aviation, and space support assets. DSCR manages an open purchase requisition (PR) workload valued at approximately \$800 million and procures approximately \$1.6 billion annually.

A data comparison between DSCR's purchase requisitions and a commercial database maintained by Inventory Locator Service, Inc. (ILS), that lists available surplus assets disclosed that 28,601 of DSCR's 47,160 purchase requisitions (60.6%) were either fully or partially supportable by quantities from one or more surplus suppliers. Based on this key result of the DSCR and ILS data comparison and other data analysis, five recommendations are offered to DOD for consideration:

- 1. All DOD ICPs should perform research to identify potential surplus suppliers and surplus inventory databases.
- 2. Push and/or pull distribution methods should be established to distribute surplus information to inventory managers and buyers. This report emphasizes that a centralized batch data retrieval and push distribution system are needed to replace the

- current manual system that takes an estimated 1572 hours to research surplus data for DSCR's 47,160 purchase requisitions.
- 3. Methods to maximize the solicitation of all potential surplus sources should be implemented.
- 4. Inventory managers should incorporate surplus availability data into all buy calculations.
- 5. Technical/quality evaluation processes should be improved and process times should be shortened.

The purpose of this report is to elevate the need for an increased focus on surplus as a potential means of more quickly fulfilling warfighter supply requirements. The results of comparing the DSCR and ILS data clearly reflect that a substantial amount of surplus assets may be available to meet the needs of other DOD ICPs. All DOD ICPs should take action to ensure that their policies and practices maximize access to surplus information and surplus suppliers so that every requisition can be met in the most expeditious timeframe.

Part 1

Introduction

Our logistics system is like a duck; from the top it looks like it is gliding effortlessly, but from underneath, its feet, like our people, are paddling furiously.

— Unknown Air Force Senior Leadership¹

Is the DOD Supply System Responsive Enough?

How long should a warfighter have to wait for a spare part? Does six months to a year meet the definition of "customer satisfaction?" It is sad but true that DOD's supply system will only promptly respond and deliver stocked items to roughly 86% of all requisitions. The remaining 14% of the requisitions become "backorders" and will be supplied within an average of 180 days once the requisition can be contracted for, produced by a commercial contractor, and then delivered. One cause for this situation is the difficulty in predicting the needs of DOD's aging weapon systems. For example, in 2000, the average age of the Air Force's total fleet is 21.2 years and the average age will be 29.7 years by 2015. Along with simply gathering age, the fleet endures greater fatigue, corrosion, and parts obsolescence. So how do Army, Air Force, Navy, and Marine soldiers that are responsible for maintaining their weapon systems deal with an often slow and unresponsive supply system? The answer is usually cannibalization and a quick prayer that the logistical system will find new ways to service their needs.

Is Surplus an Answer?

One way the logistical system can be more responsive to all supply requirements, and particularly useful for high priority backorder requirements, is to use surplus. This paper will illustrate that surplus is largely an untapped source of supply and that DOD's Inventory Control Points (ICPs) owe it to the warfighter to conduct research and change operating procedures in order to locate and use surplus. The first and foremost reason that makes surplus so attractive is the drastic reduction in the time required to procure and deliver surplus to the warfighter. Acquisitions totaling less than \$25,000 account for an estimated 80+ percent of all DOD procurement actions and take an average of 180 days for the procurement and delivery of the supplies. However, available surplus and a streamlined procurement approach could reduce the average number of days to procure and deliver the surplus supplies from 180 to 15 days.

Taking Advantage of Surplus in the Market

This report demonstrates that a significant number of requisitions can be filled "faster" with surplus—specifically, the availability of surplus should be seen as an opportunity to alleviate situations where there is no on-hand stock and a warfighter has established a backorder. Although the remainder of this paper focuses on identifying available surplus to meet the requirements of Defense Supply Center Richmond (DSCR), one of Defense Logistics Agency's (DLA's) four ICPs, the lessons learned from the analysis of DSCR's workload should be exploited by all of DOD's ICPs. This paper looks at the regulations and procurement processes that restrict DSCR's acquisition of surplus and makes recommendations on how to overcome these issues. The use of surplus can significantly reduce workload, increase responsiveness, and better support the warfighter if the proper decisions are made and the needed information infrastructure is put in to place to locate and acquire the surplus material.

Notes

¹ Ronald Orr, *Air Force Logistics Transformation*, Lecture, Air Command Staff College, Maxwell AFB, AL, 3 February 2000. Slide 10.
² Ibid., Slide 8.

Part 2

Background

Surplus Defined

For the purposes of this research paper, the following DLA definition for surplus is used: "unused materiel which was purchased and accepted by the Government and subsequently sold at disposal." This definition is provided as a distinction from "new/unused manufactured materiel" that meets current requirements, was manufactured by a qualified manufacturer, and is now held by the manufacturer, a system contractor, a successor company, or a distributor.

DOD's ICPs and the Problem with "Surplus"

In general, the military's supply system is based on two levels of operations:

- 1. a "retail level" supporting end user requisitions and issue points, and
- 2. a "wholesale level" (i.e., an ICP).

The wholesale level performs four functions:

- 1. the procurement of end user-defined quantities based on an immediate need,
- 2. the procurement of bulk quantities based on historical demand data,
- 3. storage within a depot/distribution system, and
- 4. delivery to retail activities or actual users.

A summary of the eighteen (18) wholesale activities responsible for procuring, storing, and delivering 90% of all DOD supplies follows:

- 1. the Army's seven ICPs,
- 2. the Air Force's five Air Logistics Centers (ALC's),

- 3. the Navy's one ICP (NAVICP),
- 4. the Marine's one ICP, and
- 5. DLA's four Defense Supply Center (DSCs).

Within the ICPs, the word "surplus" conjures up a minimum of three different meanings. For two of the three acquisition disciplines, the connotation is positive: (1) for the buyer, identifying surplus offerors is often perceived as a time-consuming task but the identification of surplus offers a means to fulfill one of many purchase requisitions and (2) for the inventory manager, surplus offers a drastically shortened acquisition leadtime (the administrative leadtime (ALT) associated with soliciting sources/receiving responses/placing an order/contract and the production acquisition leadtime (PALT) associated with the contractor(s) production of the item under order/contract). For the third acquisition discipline, the connotation is not so positive because it often means higher risk. The technical/quality specialist bears the responsibility of ensuring that the offered surplus is properly documented to show that it was formerly owned by the Government and still meets performance and safety of persons/property expectations. Meanwhile as the three acquisition personnel (i.e., buyer, inventory manager, and technical/quality specialists) wrestle with "administrivia," warfighters await the fulfillment of their requisitions so they can accomplish the assigned mission.

Scope of Effort

There are numerous issues related to surplus property. In the past, the most controversial issues have been inventory disposition rules (i.e., the decision process used to declare on-hand inventory assets as surplus) and Defense Reutilization Management Service's (DRMS's) transfer, donation, or sale of the declared surplus to Federal agencies or commercial contractors. In FY 1996, DRMS disposed of \$24 billion in excess property.² Unlike other critical analyses and discussions, including congressional hearings on the Government's management of surplus

disposition, this research effort is aimed at reviewing the Government's procedures used to identify and procure surplus that has found its way back into the hands of commercial contractors. The remainder of this paper and the analysis in Part 3 addresses DSCR's workload and DLA's operations. DSCR's workload was selected for analysis because of its immediate impact on the supply of air, aviation, and space support products. Part 3 of this paper provides a comparison of DSCR's 47,000 requisitions with a commercial surplus database and draws conclusions about the results of this data comparison. An analysis of the results was performed and the following questions were addressed:

- 1. Is surplus available to satisfy immediate DSCR requirements?
- 2. Are there improved methodologies by which Defense Logistics Agency-Defense Supply Center Richmond (DLA-DSCR) can locate and procure surplus material that is currently in the inventories of commercial contractors?
- 3. If insights to DSCR's processes are identified, can recommendations be applied to other DoD ICPs?

Review of Regulations/Guidance

Federal Acquisition Regulation (FAR) Guidance

FAR Part 11.301 states that virgin materiel is not required unless it is vital for safety or to meet the performance requirement of a contract and FAR Part 11.302 requires the use of clause 52.211-5 that mandates that offerors must identify unused former Government surplus property that is offered for sale.³

DLA Guidance

The current Defense Logistics Agency Directive (DLAD) Part 11.302 adds to the requirements of FAR Part 11.301 by directing defense supply centers to establish procedures to evaluate surplus offers and to use of the following two additional clauses:

- 1. 52.211-9000 that provides a preformatted template for identifying the condition and source of the surplus, and
- 2. 52.211-9003 that (a) establishes an evaluation cost (i.e., \$200 for internal evaluations and an additional \$500 [i.e., total of \$700] plus fees for Engineering Support Activity (ESA) evaluations) to be added to a surplus offer during the award evaluation process and (b) outlines additional examples of supporting documentation as required by 52.211-9000 that may be used to identify the source(s) of the surplus.⁴

A proposed revision to DLAD Part 11.302 adds that the technical/quality specialist may determine circumstances that restrict the evaluation of surplus. Examples of these circumstances are as follows:

- 1. the materiel is for life support,
- 2. the materiel is a Flight Safety Critical Aircraft Part (FSCAP),
- 3. an Individual Repair Parts Ordering Data (IRPOD) has been developed, or
- 4. for other unique circumstances such as a need to maintain other suppliers that would be vital in the event of industrial mobilization.⁵

These circumstances do not prohibit surplus suppliers from submitting offers on purchase requisitions but it does prohibit the evaluation of the surplus offer unless, at the time of evaluation, there exists an "unique contingency." A "unique contingency" is defined by situations such as the equipment manufacturer is out of business, the aircraft/system is obsolete, or the sole vendor or approved vendors do not respond.⁶

DLA Interim Guidance, dated 27 May and 18 Jun 1999, supplements the DLAD by providing surplus evaluation procedures. Specifically, the 27 May supplement outlines the following:

- 1. the technical/quality specialist is responsible for documenting the special circumstances for restricting the purchase of surplus, and
- 2. the inventory manager shall be involved in suspending a purchase if a surplus evaluation is forwarded to an ESA.⁷

The 18 June supplement provides clarification to the 27 May supplement and reinforces that "offers of surplus materiel shall be evaluated when: the offeror is otherwise in line for award,

after adding the cost of evaluation; or avoidance or significant improvement of a backorder situation, or the urgency of need, overrides other factors; or there are no other sources."

The DLA Interim Guidance was implemented via a 29 Sep 99 DSCR Procurement Information Memorandum (PIM) 99-34. PIM 99-34 provides further guidance that is consistent with the proposed DLAD revision regarding "unique contingencies." In short, if procurements of surplus will be limited to "unique contingencies," then all Request for Quotations (RFQs) must include Notice 11-8 that forewarns surplus suppliers that their offers may not be considered. In addition, the PIM provides guidance on the proper provision to use for inspection at origin versus inspection at destination orders.⁹

Impact of the FAR and DLA Guidance

The FAR and DLA guidance illustrate that the Government seeks to procure surplus <u>unless</u> the evaluation cost, evaluation time, performance of the asset, or another unique and documented quality/technical factor prohibits the consideration of surplus. But these rules may be too restrictive in supporting warfighters. The Issue Analysis section of this paper will illustrate that the volume of surplus material available to DSCR may warrant a review of the regulatory guidance in order to remove some of its restrictions. This guidance also provides a point of reference for many of the recommendations offered in the Issue Analysis section of this report.

Notes

¹ David P. Keller, Commander, Defense Logistics Supply Command, memorandum for record, subject: Interim Guidance for Processing and Evaluating Offers of Government Surplus Material, May 27, 1999, 1.

² US House. Oversight of Defense Surplus Equipment and the Activities of the Defense Reutilization and Marketing Service: Hearing Before the Subcommittee on Government Management, Information, and Technology of the Committee on Government Reform and Oversight. 105th Cong., 1st sess., 1997, 14.

³ Federal Acquisition Regulation (FAR). Subpart 11.301. October 1, 1999.

⁴ Defense Logistics Agency Directive (DLAD). Subpart 11.302. August 2, 1999.

Notes

- ⁵ Proposed Revision to Defense Logistics Agency Directive (DLAD) Subpart 11.302. Undated draft, 1.
 - ⁶ Ibid.
 - ⁷ Keller, 3-6.
- ⁸ Walter B. Bergmann, II, Executive Director for Logistics Management, Defense Logistics Supply Center, memorandum to Defense Supply Center Commanders, subject: Correction to Interim Guidance for Processing and Evaluating Offers of Government Surplus Material, June 18, 1999, 2.
- ⁹ Captain L. E. Vadala, USN, Executive Director for Procurement, Defense Supply Center Richmond, memorandum to Recipients of Procurement Information Memorandums (PIMs), subject: Government Surplus Material, PIM 99-34, September 29, 1999, 1-2.

Part 3

Issue Analysis

An Overview of DLA

DLA is the largest wholesale activity for DOD and its four ICPs are responsible for 86 percent of all DOD consumable items and 55 percent of all federally stocked items. A description of DLA's four ICPs follows:

- 1. Defense Supply Center Columbus (DSCC) supplies automotive parts, construction materiel/equipment parts, hydraulic hoses, road graders, and electronic components,
- 2. Defense Supply Center Philadelphia (DSCP) supplies electric wire and cable, fasteners, chain and wire rope, medical, biological, rations, and clothing/textiles,
- 3. Defense Energy Support Center (DESC) supplies bulk and packaged petroleum products, and
- 4. Defense Supply Center Richmond (DSCR) supplies air, aviation, and space support products.

Data Analysis

During each fiscal year, DSCR processes roughly 150,000 purchase requisitions and obligates roughly \$1.6 billion in funds. DSCR has an average open requisition workload of 45,000 purchase requisitions representing roughly \$800 million in expenditure. Using surplus to fulfill these requisitions is a means to significantly reduce acquisition leadtime.

Data Collection and Results.

As a starting point for determining the amount of surplus available in the marketplace to meet DSCR's requirements, a November 1999 computer download of DSCR's purchase

requisition (PR) data was obtained. This database was sent to Mr. Peter Beaulieu, who offered the services of his company, Associated Aircraft Manufacturing and Sales, Inc. (AAMSI), to merge the DSCR data with data maintained by a commercial entity entitled Inventory Locator Service (ILS). The ILS database is currently the primary surplus database used by DSCR and numerous commercial entities to locate air, aviation, and space surplus supplies. About 3000 companies, including the majority of the NAACS members, either list assets for sale on ILS or use ILS as a source to locate parts. The data retrieval end product, hereafter referred to as the "DSCR/ILS database," is a merger of the DSCR data and ILS surplus inventory data. Inventory information was collected for up to 11 surplus suppliers. Figure 1 on the following pages is provided as an example excerpt of the DSCR/ILS database.

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	<u>GR</u>	PR_NO	NSN	ORC PRI	BO	EX	QTY	ilsqty	diff	VALUE	SOL	DATE	PRO	SYS	PALT
	C	YPG99223000094	5940-00-988-6312	YM Q S	0	6	36	153400	153364	2194.20	$0Q\overline{0802}$	99295	102	105	64
		YPG99291000207	5970-01-075-1093	YP 5	1	0	1	109042	109041	982.50	0AAB24		34	34	-83
	C	YPG99236000057	8140-01-133-6500	PJ 12:00 AM	2	0	3	101947	101944	539.40	9TD899	99252	89	128	68
	В	YPG99203001004	6105-01-174-4397	XF N	7	0	15	68003	67988	10385.70	0QC043	99288	121	128	7
	C	YPG99012001400	3110-00-594-1538	GD 6	1	0	1	65590	65589	63.34	9QG921	99034	229	320	145
	C	FPG99314000369	2840-00-407-9162	VI #NAME?	1	0	250	65000	64750	917.50			11	20	-157
	C	YPG99211000535	5365-00-841-2577	WM M S	0	2	850	38754	37904	110.50	9QSQ37	99260	114	220	182
	C	FPG99252000645	3110-01-061-3342	CE R	0	0	964	35770	34806	4627.20	9Q0454	99264	73	84	-35
	В	YPG99097000078	5940-00-892-3106	YM 9 S	1	2	5	33374	33369	826.25	9AB529		228	234	144
	С	YPG99326000373	6135-00-835-7210	XU 5	144	0	50	14466	14416	385.50			1	1	-9
	C	YPG99316000886	6135-00-835-7210	XU 5	144	0	150	14558	14408	1156.50			5	9	-1
	С	YPG99202000772	6850-01-268-1754	PS O	0	0	36	14261	14225	2205.36	9XC550	99224	123	136	46
	В	YPG99027000559	1680-00-339-7244	DB M S	1	7	84	3106	3022	663.60	9QQ806	99111	215	318	190
	С	YPG99263000384	1560-01-174-1933	FO M S	0	0	500	3520	3020	600.00	90CH38	99300	62	73	-17
	В	YPG99124001421	6130-01-107-4070	XM M	0	8	69	3089	3020	794.88	9XY045	99155	201	227	93
	В	YPG99260000266	1650-01-274-1896	AP 9 W	2	0	6	156	150	613.08	001105	99281	65	73	-147
	В	YPG98202000583	6150-01-136-8599	TS R	0	0	12	162	150	9794.16	8Q8976	98226	488	504	386
	С	YPG99316000069	5970-00-485-5717	YK 03 7	1	0	10	160	150	2.90	0AAF83		9	16	-72
	C	FPG99207000801	2840-00-996-8280	UE M S	0	0	215	216	1	28109.10	9X8151	99260	118	128	-72
	C	YPG99263000436	1615-00-078-3360	AF N	0	0	35	36	1	24430.00	001372	99343	62	70	-146
	В	YPG99302000458	2995-00-393-5736	MQ Q	5	6	16	17	1	1028.16	0Q7283	99340	23	38	-413
	С	FPG99308001102	1560-01-076-5317	FO 9	2	0	1	1	0	2305.61			17	20	-130
	C	YPG99172000014	6685-01-080-1197	нк ј	0	0	40	40	0	5319.60	9TB126	99188	153	157	97
	C	YPG99119000785	5365-00-340-5493	WM O	0	0	100	100	0	226.00	908861	99152	206	220	176
	C	YPG99288001051	4010-00-679-1424	SC N	1	0	55	55	0	1870.00	0QQ183	99343	33	42	32
	C	YPG99229000191	1560-01-154-2765	JV N	0	0	12	7	-5	11457.24	9QVF11	99298	96	136	-229
	C	YPG99158000746	2995-00-024-4065	MK 9	1	0	10	5	-5	3800.00	9X9211	99190	167	182	-52
	С	YPG99313000401	2840-01-323-2832	NF Q	0	2	30	25	-5	8679.30			12	38	-82
	В	YPG98175000212	1560-00-139-8367	JB 9 W	5	0	50	0	-50	23284.00	8X2991	98229	515	525	348
	В	YPG99326001183	6680-01-093-1239	HL O	0	16	65	15	-50	29640.00			0	3	-131
	Α	YPG98212000763	6110-01-202-8002	XH O	27	51	175	4	-171	123856.25	9R0076	99217	473	486	366
	Α	YPG99308002529	1560-01-043-4620	FP O	49	112	218	3	-215	82364.76			0	28	-2
	Α	YPG99259000768	3110-00-702-5702	CC N	23	50	400	150	-250	42508.00	0QK524	99362	46	128	8
	В	YPG99228001224	9150-00-478-0055	PC J W	0	0	1075	74	-1001	3472.25	9Q9230	99253	97	112	-127
	В	YPG99280000538	3120-01-037-5333	CM R	8	7	6240	1235	-5005	89856.00	0R0682	99361	43	84	-36
	Ā	YPG99308001894	5365-00-899-5759	WB G W	66	110	6411	355	-6056	15322.29	0Q9702	99330	17	38	-2
	В	YPG97294000182	2840-00-703-2214	VO Q	10	25	19837	12166	-7671	18845.15	8Q9221	98204	761	805	530
	В	YPG99316000577	5365-00-808-2527	WD E S	1	0	15164	4131	-11033	1516.40	04/221	,020.	9	31	-38
	A	FPG99127001413	2840-00-877-0032	US L	14	65	17000	660	-16340	332520.00	9R1447	99278	194	224	42
	В	YPG99326001195	9150-00-985-7099	PP D W	494	0	57600	350	-57250	201024.00	,,,,,,	,,2,0	0	14	4
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GR		priority scale (A – C)		order figure			VALUI		ollar value o			ALT	past acq	uisition	leadtime
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Figure 1. Example Excerpt of the DSCR/ILS Database (Note: this figure is continued on the following page.)

BUYER	supp1	part1	desc1	cnd1	qty1 supp2supp11 data
PM645	1-972-660-7284 JENCO ELECTRONICS (6283)	U1B	SPLICE	NS	62000
PS544	1-757-489-3900 KWAT ENTERPRISES CORP. (A0GZ)	TMS-3/16N011-9	INSULATION MARK	NS	99042
AJ325	1-305-889-6111 AAA INTERAIR, INC. (0016)	A2008	CLAMP	NE	1
ZZ881	1-916-645-8919 IHP WORLDWIDE (7722)	71514-1	SHELF	AR	1
BZ110	1-416-674-0770 INTERFAST, INC. (7533)	225150	NUT Q2 INS	NE	65590
BO474	1-210-434-5577 ALAMO AIRCRAFT SUPPLY, INC. (5371)	5018M85P01	LOCK-S PAD	NS	65000
AJ226	FAX ONLY QUALITY AVIATION & POWER SUPT. (1101)	4M38A416L	SHIM	NE	1
BX872	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	7829156-11	BEARING,BALL	NE	50
PS641	1-903-572-1985 JAY-TEX AVIATION, INC. (1801)	MS25435-10	LUGS	NS	86
RAYOA	1-*FAX ONLY* AVIALL SERVICES (0002)	MN1300	D/ALK/BATT	NE	0
D/SO	1-*FAX ONLY* AVIALL SERVICES (0002)	MN1300	D/ALK/BATT	NE	0
AB486	1-805-987-7171 ELECTRONIC EXPEDITERS (5900) TLX:9104951751/T	2023A	ULN2023A****	NS	13809
BR776	1-717-426-1906 STRUBE INC (1039)	50159-2	PIN	NS	3032
BE976	1-210-434-5577 ALAMO AIRCRAFT SUPPLY, INC. (5371)	7032128-10	STREAMER ASSEMB	NS	3500
ZY182	1-818-769-1751 AIRCRAFT PARTS CO. (1551)	31166	GEAR	NE	15
BT974	1-860-529-6851 KELL-STROM TOOL CO. (7399)	289321-1	TESTER	NE	0
BG535	1-310-632-2466 CONNECTOR DISTRIBUTION CORP. (1607)	67015	CON	NS	4
PS642	1-425-485-0400 SOUNDAIR, INC. (SEATTLE, WA) (3860)	380-1665-00	BUSHING	NS	4
BL576	FAX ONLY AIM ENTERPRISES, INC. (1122)	106C3336P1	SECTOR NUT	NE	1
BT965	FAX ONLY QUALITY AVIATION & POWER SUPT. (1101)	K115820-1	SLIP RING ASSY	NE	15
BO671	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	3500681-1	SEAT	NE	0
BD615	1-940-328-1373 EVAIR ASSOCIATES (5047)	16B6865-10	FITTING	NS	1
AZ654	1-757-468-9400 AIR MARINE SYSTEMS INC. (9625)	6685-01-080-1197	GAUGE	NS	40
AJ325	FAX ONLY BRIGHT LIGHTS USA, INC. (AL0Y)	965135-295	SHIM	NE	100
CLC11	1-706-798-7500 SOUTHEASTERN EQUIPMENT CO. (A0KB)	4010-00-679-1424	WIRE ROPE ASSEM	NS	2
BV412	1-850-455-0971 BROWN HELICOPTER (1842)	40C132-3	VALVE	NS	3
BO673	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	20-54153-3	LEVER	NE	0
BL574	1-850-455-0971 BROWN HELICOPTER (1842)	9999M70P11	RING	NS	20
BV511	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	14-11877-3	COVER, ACCESS	NE	0
D/SO	1-305-592-4055 AVIATION SALES COMPANY - MIAMI (0096)	S901-1	FITTING	NS	15
ZZ880	1-323-877-2717 S.P. AIRPARTS (6011)	SRB-8-2	SYNCHRO	NS	1
BD611	FAX ONLY QUALITY AVIATION & POWER SUPT. (1101)	16P132-3	ADAPTER VALVE	NE	1
BX875	1-805-644-5702 FLIGHT PRODUCTS, INC. (1217)	SB4002	CABLE	NE	93
AC525	1-203-576-6545 ROTAIR IND. (1713)	MIL-G-25537	GREASE	NE	1
BX877	1-310-829-4345 PACIFIC AIR INDUSTRIES (0205) TLX:65-2444 / W	9146M89P02	BUSHING	NE	70
AJ328	1-*FAX ONLY* AVIALL SERVICES (0002)	9525504	RING	NE	0
BL475	FAX ONLY QUALITY AVIATION & POWER SUPT. (1101)	706B106P1	BOLT, COMPRESSOR	NE	585
AJ227	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	NAS43DD3-40	SPACER, SLEEV	NE	0
BO570	1-210-434-5577 ALAMO AIRCRAFT SUPPLY, INC. (5371)	6809092	BLADE 12TH STAG	OH	14
D/SO	1-414-355-3066 DERCO AEROSPACE, INC. (1186)	2380/QT	LUBRCTNG OIL	NE	0

Column Heading Descriptions

BUYER	buyer code	desc1	description data from ILS
supp1	identification data for supplier 1 from ILS	cnd1	condition code data from ILS

part1 part data from ILS supp1. supp1 data filler column for this figure representing that available data for suppliers 2 – 11 was also obtained (Note: data pull from ILS was truncated after 11 suppliers were identified)

Figure 1 (continued). Example Excerpt of the DSCR/ILS Database

The bulk of time expended on this research effort was consumed by the data retrieval, manipulation, and analysis process. A review and analysis of the original DSCR database and the DSCR/ILS database provide the following tables of information:

Table 1. Indicative Data

Number of DSCR PRs as of mid November 1999	47,160 PRs			
Dollar Value of the 47,160 PRs	\$852 million			
DSCR PRs matched to the ILS data	28,601			
% of DSCR PRs matched to the ILS data	60.6%*			
Dollar Value of the 28,601 DSCR PRs matched to ILS	\$540 million			
Dollar Value of ILS reported assets matching DSCR PRs	\$180 million			
% of "total" DSCR rqmts potentially met by ILS assets	21.1% (\$179M/\$852M)			
% of "matching" ILS and DSCR rqmts	33.2% (\$179M/\$540M)			

^{*60.6%} could be supported either fully or partially by quantities from a single or multiple ILS vendor(s)—See Table 2 for a further breakout.

Source: DSCR/ILS database.

Table 2. Percentage of DSCR Requirements Met by ILS Reported Assets

% of DSCR qty avail from ILS	# of PRs	% of PRs
> 1000%	6976	14.7
500% < x < 1000%	2337	8.2
300% < x < 500%	1980	4.2
100% < x <300%	4856	10.3
75% < x < 100%	990	2.1
50% < x < 75%	1765	6.2
25% < x < 50%	2563	5.4
0% < x < 25%	7134	15.1
Totals	28601	60.6

Source: DSCR/ILS database.

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Table 3. Breakdown of Surplus Suppliers Offering Stock

# of ILS suppliers reporting available stock	# of PRs matched
1	28601
2	22534
3	18232
4	15157
5	12957
6	11225
7	9801
8	8639
9	7619
10	6756
11 or greater	5877

Source: DSCR/ILS database.

Table 4. Approximate* List of Top 16 Surplus Suppliers

Name of Surplus Supplier	# of PRs / % of total
	47,160 DSCR PRs
Derco Aerospace	6992 / 14.8%
Brown Helicopter	5451 / 11.6%
Quality Aviation & Power Supply	4112 / 8.7%
Jay-Tex Aviation	2245 / 4.8%
JARRD	1493 / 3.2%
Nell-Joy Industries Inc	1370 / 2.9%
Alamo Aircraft	1197 / 2.5%
Strube Inc.	1109 / 2.4%
Lee Air	1036 / 2.2%
Aviall	1035 / 2.2%
Kellstrom Industries	1032 / 2.2%
Aviation Sales Co	989 / 2.1%
United Aeronautical Corp	635 / 1.3%
Singapore Aerospace Supplies	634 / 1.3%
Airborne Technologies	596 / 1.3%
Dixie Air Parts Supply	560 / 1.2%

^{*}This data was collected manually and is subject to the omission of a supplier that matched greater than 560 purchase requisitions.

Source: DSCR/ILS database.

Tables 1 through 4 are provided together in order to provide an overview of the original November DSCR database and the DSCR/ILS database. Tables 1 and 2 illustrate the overall magnitude of the reported surplus that is immediately available in the commercial market to meet warfighter needs (i.e., 28,601 (60.6%) of DSCR's 47,160 PRs could be supported either fully or partially by quantities from a single or multiple ILS vendor). Table 3 highlights that numerous suppliers report surplus assets matching DSCR's requirements (i.e., at least one supplier reports surplus assets for 28,601 of DSCR's requirements and up to 11 suppliers report surplus for 5877 PRs). Table 4 displays the top 16 surplus suppliers identified by the ILS to DSCR data comparison (e.g., Derco Aerospace and Brown Helicopter individually report assets matching 14.8% and 11.6% of DSCR's total outstanding PRs). The data in the tables forms the basis for the claims and recommendations that follow.

Limitations/Qualifications of the Data Retrieval Process

Six limitations/qualifications of the data follow:

- 1. The ILS database was the only one queried and used for an analysis of DSCR's requirements—the identification, use, and merger of other databases into a single database of information may be useful in identifying surplus matching DSCR requirements.
- 2. The ILS data incorporated into the DSCR/ILS database was roughly five (5) percent inaccurate. Specifically, blank fields of data were found DSCR/ILS database and manual corrections were made to overcome the errors. A more effective method would have been to collect the data directly from ILS using a one-time batch retrieval process.
- 3. Data integrity of the on-hand quantities available from surplus suppliers as represented by the ILS data is questionable. Reported on-hand quantities in ILS may be erroneous if surplus suppliers inaccurately input their data or fail to update their data on a timely basis. No analysis was performed to determine the accuracy of the ILS data.
- 4. ILS quantities in the DSCR/ILS database may be understated for two reasons: (1) only data for 11 suppliers was retrieved—due to data file size limitations, the ILS data collection was truncated after 11 surplus suppliers and (2) some surplus suppliers do not report on-hand quantities and simply post a "fax for information notice" on the ILS database. These two reasons strongly indicate that the total quantity of surplus available as shown by the retrieval product is underrepresented.
- 5. A random review of the "condition codes" provided in the ILS data showed that 90% of the offered items were coded "New Surplus" or "New Equipment." Generally, materiel

- offered by the surplus suppliers will only be acceptable to the Government if the surplus is coded NS—new surplus or NE—new equipment. Some of the other condition codes found in the DSCR/ILS database are SV—serviceable, AR—as received, and OH—onhand (see Figure 1 for examples).
- 6. The backorder data in the November DSCR database could not be validated as accurate and did not provide the amount of detail required for further analysis. Analyses of the data would have been improved if Inventory Priority Group (IPG) information (i.e., data to indicate IPG 1s designating emergency priorities 1 3, IPG 2s designating urgent priorities 4 8, and IPG 3s designating routine priorities 9 15) were available. Since no useable backorder data was available, the information Tables 1 4 only reflects a summary against total PR quantities.

Although the results DSCR/ILS database provide great insights into the availability of surplus, the above listed limitations indicate that future data analyses may offer more accurate and better insights into the availability of surplus. As a minimum, the use of additional data sources and better retrieval information such as backorder data will increase the visibility of available surplus and improve the analysis process that will lead to revised operating procedures. Future analysis of this type by the DOD's ICPs should begin with an analysis of what information that an ICP's data system can provide, a review of what information is available in the marketplace, and a plan to merge all of this information into a useful collection of surplus supply information.

Results

The data provided in Figure 1 and Tables 1-4 leads to the following three claims:

- 1. surplus is readily available,
- 2. current acquisition methods ignore available surplus, and
- 3. current quality/technical review procedures often overly restrict the procurement of surplus.

Surplus is readily available.

The data in Tables 1-4 clearly shows that surplus assets are readily available in the commercial market. Specifically, Table 1 highlights that 28,601 purchase requisitions of the

47,160 DSCR purchase requisitions (60.6%) were determined to be either fully or partially supportable by quantities from a single or multiple ILS vendor(s). Even though this research effort only involved a comparison of DSCR's requirements against ILS data, a thorough analysis of other known databases should be conducted and the results combined.

Current acquisition methods ignore available surplus.

First, acquisition practices typically ignore the use of surplus databases to identify potential sources of supply. Except for within special units (e.g., DLA's designated an Emergency Supply Operations Centers (ESOCs)) that are tasked to resolve high priority (i.e., IPG1 requisitions) and special projected coded requisitions are these potential sources of supply routinely explored. Only in rare instances (i.e., typically when a purchase requisition is identified as a high priority or is extremely old) will either an inventory manager or buyer use the ILS to identify sources. Typically, buyers and inventory managers only rely upon readily available data in the Government's procurements systems when trying to identify sources. In spite of the high percentage of readily available needed parts, ILS and other surplus data sources are ignored because the effort to research and retrieve the data is time consuming (i.e., it takes roughly two to three minutes to manually look up and print information on one NSN—it would take 1572 hours (2 minutes x 47160 PRs / 60 minutes =1572 hours) to manually research ILS for all of DSCR's 47,160 PRs). Unless a batch retrieval process is used to collect the surplus data from the commercial databases and an automated method is put in place to "push" the information to inventory managers and buyers, it may be impossible to require inventory managers and buyers to research each new buy action or purchase requisition for available surplus.

Second, as alluded to in the above paragraph, vendor identification and notification are very key steps in the procurement process and deserve further analysis. As a previous DSCR

procurement section chief, I observed that 40% to 60% of all Simplified Acquisition Procedure "request for quotations" (RFQs) would reach the cut-off date for receipt of offers without the receipt of a single offer (Note: Simplified Acquisition Procedures apply to all acquisitions with an estimated dollar value of less than \$100,000 and are used for over 90% of all DOD acquisitions). Four reasons typically account for the non-receipt of offers:

- 1. public notification procedures were ineffective because (a) the requirement was not publicly announced which removes the visibility of the requirement to only those directly notified of the requirement, or (b) due to vendor oversight of the public announcement(s),
- 2. limited vendor selection for the solicitation process resulting in potential vendors not being individually notified (e.g., not conducting research to identify potential surplus suppliers),
- 3. vendor non-receipt of the Government emailed, mailed, or fax notification of a requirement, and
- 4. a delay in response by potential vendors who may be gathering information in order to submit an offer.

In FY99, DLA took action to largely correct the situation caused by 1. and 2. above. In response to DOD's Year 2000 Paperless Goal, all DLA ICPs implemented procedures to post the majority of their requirements to a internet-based "procurement gateway" which subsequently posts to the DOD New Business Opportunities Web Page. These postings ensure that all requirements are made visible to the public. In addition to the public posting of all requirements to the internet, all identified potential vendors for each unique requirement are selected by buyers for a "mailing list" which results in an email notification that the requirement exists and has been posted to the internet. However, the DSCR/ILS database discloses that buyers directly contacted vendors (i.e., by fax, phone, or email) for 5953 of the 28,601 purchase requisitions (21%) that had surplus available per the ILS system and did not post any of the requirements to the "procurement gateway" web page. Without posting requirements to the "procurement gateway," surplus suppliers are not put on notice via public announcement of the requirement and it is very probable that the surplus suppliers identified in the DSCR/ILS database were not directly

notified (i.e., by fax, phone, or email) of the purchase requirement. This situation highlights the importance of public notification and vendor selection procedures. These steps are critical to that ensure that all potential sources are made aware of the Government's requirements.

Current quality/technical review procedures restrict the procurement of surplus.

Current technical/quality procedures restrict the procurement of surplus as follows:

- 1. introducing an unpredictable and lengthy amount of ESA evaluation turnaround time for surplus offers,
- 2. introducing additional evaluation costs to surplus offers (i.e., \$200 for an internal evaluation of a surplus offer plus an additional \$500 if an ESA evaluation of the surplus offer is required), and
- 3. using a process of individually analyzing each individual surplus offer. Most importantly, this evaluation process is time consuming; however, there may be ways to reinvent the current process such as establishing direct ties with the market's larger surplus suppliers in order to grant pre-approved quality certification processes or establishing regional government inspection locations and operating procedures.

These above restrictions are examples of the technical/quality procedures that should be reviewed for possible areas of improvement based on the information provided by the DSCR/ILS database.

Recommendations for all DLA and DOD ICPs

The regulations review in Part 2, Review of Regulations/Guidance, quickly shows that the guidance is very prescriptive in nature and do not offer incentives for procurement innovation. However, the positive insights produced by the DSCR/ILS database highlight the need for a critical review by all DLA and DOD ICP activities regarding the procurement of surplus. As a starting point for a review, recommendations for improvement are offered in the following five areas: research, push versus pull data distribution methods, maximizing the solicitation of

potential sources, inventory manager buy quantity decision, and technical/quality evaluation processes.

Research.

To identify surplus opportunities, every ICP should research the market for potential surplus suppliers and databases. As a minimum, each ICP should match their requirements against available commercial inventory databases to determine if a supply of surplus is available for the commodities for which they manage. For example, DSCR should pursue the possibility of additional databases other than ILS and combine the results of these databases. As an example of the minimal cost involved, the cost to retrieve the ILS data through a batch retrieval process is estimated at a cost of \$470.00 (i.e., 10 cents each for the 47,000 purchase requisitions queried). If the surplus retrievals reflect that surplus is available, a single surplus "advocate" (i.e., a program manager) position should be established to consider the subsequent recommendations that follow and to establish other required changes in operating procedures that will maximize logistics processes. As indicated by the DSCR/ILS database results, the benefits of positive research findings heavily outweigh the cost and staffing of performing research.

Push versus pull data distribution methods.

If each ICP's surplus research provides positive results, the next step is to determine whether the surplus information will be distributed to inventory managers and buyers via a push or pull methodology. At DSCR, access to ILS information is already available via the internet. However, this pull type of access relies upon inventory managers and buyers to individually research each buy action and purchase requisition, respectively, in order to determine the potential for available surplus assets in the marketplace. As an alternative method or complementary method, a push system is suggested as the most effective means of ensuring the

information is directly provided to the inventory managers and buyers. A push method would involve systematic retrievals of the data (e.g., daily, weekly, or monthly) from the various data sources and the creation of a manual or automated distribution method. An automated distribution method could include merging the data into the Government's procurement system databases (e.g., for DLA, this would involve merging the data into the Standard Automated Materiel Management System (SAMMS)). As a minimum, the goal is that the data should be available to inventory managers at the time a buy quantity determination is being made and to buyers at the time that potential sources are being solicited. Obviously, a push method offers advantages over a pull method by saving time and institutionalizing the review of surplus sources.

Inventory manager buy quantity decision.

The availability of surplus may impact the calculations made by an inventory manager in determining the immediate total buy requirement—this means that surplus availability data must be readily available at the very beginning of the buy process. First, if an inventory manager has market availability data regarding surplus materiel and a high degree of confidence that the surplus materiel is of an acceptable quality, then this knowledge could affect the computations used in determining the amount of stock to procure and lessen the quantity and cost of the immediate requirement which could quickly be met through surplus. Second, in addition to impacting a decision on a total buy quantity, surplus is a fast solution to "high priority" IPG 1 requirements that may be expeditiously procured using "unusual and compelling" procurement procedures.

Maximizing the solicitation of potential sources.

In either a push or pull system, it is in the best interest of the Government for buyers to use surplus availability information in order to solicit all potential sources. If no other action is taken in reaction to this study, all future purchase requisitions should not be solicited until a buyer manually pulls surplus supplier information from all available sources such as ILS. Two measures should be taken: individually notifying surplus suppliers of all requirements and taking advantage of other notification procedures.

Individual notification to surplus suppliers of all requirements. All potential sources of surplus should be added to a buyer's mailing list. Although the majority of all DSCR's requirements are posted to an internet-based "procurement gateway" web page and the DOD New Business Opportunities Web Page (see previous "Results—Current acquisition methods ignore available surplus" for noted exceptions to this process), this action does not ensure that each member of the surplus vendor community will be aware of the requirement unless they individually monitor the web page or pay a third party to monitor the web page. Conversely, adding a potential surplus supplier to a mailing list requires minimal effort and ensures that the supplier will be notified of the government's requirements. The solution is clear: (1) identify all potential surplus suppliers by utilizing surplus databases such as ILS and (2) notify potential surplus suppliers by adding them to the buyer's mailing list.

Additional notification opportunities. A further advantage of data retrievals from a source such as ILS is the opportunity to manipulate the data in search of patterns and groupings of information. Table 4 identifies that the top 16 surplus suppliers matched from 560 to 6992 purchase requisitions. Consequently, data retrievals could be used to regularly provide a complete listing of requirements to such a select group of the top ranking surplus suppliers in order to keep them current of all requirements. In addition to directly notifying individual

suppliers, retrieval products like the DSCR/ILS database could be posted on DOD internet sites so all interested suppliers could download the data and manipulate it into useful products for their businesses.

Technical/quality evaluation processes.

Five areas of improvement are suggested to the current technical/quality evaluation processes in order to streamline the acquisition of surplus:

ESA response times. ESAs should establish a benchmark that 90% of all response times for approval/disapproval of surplus offers should be limited to less than a pre-established number of business days (e.g., 10 business days). Currently, ESA response times are erratic and this condition results in an inadequate consideration of surplus offers. It is a fairly easy scape goat to disregard a surplus offer that must be sent to ESA for an evaluation because the turnaround time from ESA is often quite lengthy (i.e., a "guesstimate" somewhere between 30 – 150 days). As a result, the technical/quality specialist and inventory manager usually do not suspend purchase requisitions to allow for an ESA evaluation of surplus and request buyers continue with the buy based on the currently available offers (i.e., this action could be shortsighted if the resultant awardee provides an 180-day leadtime for delivery and the surplus supplier, once ESA-approved, could offer a 10-day leadtime for delivery).

Evaluation costs. The addition of an evaluation charge to a surplus supplier's offer may be inappropriate in certain instances. For example, DLA's potential addition of \$700 for an Engineering Support Activity's surplus evaluation may be unwarranted if a surplus supplier can provide documentation showing that the item was given a service code of "1A" (i.e. Unused/Good—Serviceable (Issuable Without Qualification)) by the Government at the time of disposition. This example demonstrates the need for a review of the basis of using evaluation

costs and suggests that a more tiered evaluation cost matrix be established for differing levels of effort expended by the Government to evaluate surplus offers.

Pre-approval of surplus suppliers. A pre-approval process for validating the ability of companies that hold surplus to certify to the quality and source of their inventory should be established. Just as the production processes of manufacturers are quality certified as International Organization for Standardization (ISO) 9000/9001/9002/etc. and these certifications are being accepted by the Government in lieu of Military Standards, it should be feasible for companies that deal with large volumes of surplus, such as the 120 members of the NAACS or the 16 top DSCR/ILS database suppliers identified in Table 4, to be pre-approved to certify to the quality and source of their surplus.

Regional inspection locations. Regional inspection locations within the U.S. could be designated to receive and inspect/accept all surplus acquisitions. The regional locations could establish unique operating procedures in order to inspect/accept surplus materiel and if the surplus materiel does not meet quality standards then it would be returned to the surplus suppliers at their own expense. This suggestion is very advantageous <u>if</u> a shortened acquisition leadtime of 15 days could be realized for buys under the \$25,000 CBD publication threshold (e.g., 88% of DSCR's outstanding purchase requisitions fall under the \$25,000 threshold).

Inspection/acceptance at origin. Similar to regional inspection locations and surplus supplier pre-certifications, quality/technical specialists can be sent to a surplus offeror's place of business in order to inspect the surplus materiel either before a buy action or after the buy action (i.e., an inspection/acceptance at origin process that is routinely done for manufactured items coded "critical" by the Government).

Part 4

Conclusion

Are DOD's ICPs using every possible source of supply to meet the needs of the warfighter? This report provides clear proof that surplus may be an untapped resource to fulfill purchase requirements for stock or warfighter backorders. Specifically for backorder situations, surplus offers an off-the-shelf remedy that will support the warfighter in a quicker fashion than the average 180-day acquisition cycle time.

This report's analysis of DSCR's requirements as compared to the ILS supply data provides proof that surplus is readily available to support air, aviation, and space support end items. The single fact that 28,601 of DSCR's 47,160 purchase requisitions (60.6%) were either fully or partially supportable by quantities from one or more surplus suppliers is a strong indicator that more research should be done. This type of information should signal a sense of responsibility for all 18 DOD ICPs to perform their own reviews in order to determine if surplus is available to meet the needs of the commodities for which they manage. This report offers five recommendations related to identifying and procuring surplus as a means providing better support:

- 1. All DOD ICPs should perform research to identify potential surplus suppliers and surplus inventory databases.
- 2. Push and/or pull distribution methods should be established to distribute surplus information to inventory managers and buyers.
- 3. Methods to maximize the solicitation of all potential surplus sources should be implemented.

- 4. Inventory managers should incorporate surplus availability data into all buy calculations.
- 5. Technical/quality evaluation processes should be improved and process times should be shortened.

As DOD ICPs struggle with imperfect demand-based supply systems to manage aging weapon systems, different acquisition approaches must be adopted to elevate the level of support provided the warfighter. Clearly, surplus is one such alternative approach.

Glossary

AAMSI Associated Aircraft Manufacturing and Sales, Inc.

ALT Administrative Lead Time

AR As Received

DESC Defense Energy Support Center
DLA Defense Logistics Agency

DLAD Defense Logistics Agency Directive

DOD Department of Defense

DRMS Defense Reutilization Management Service

DSC Defense Supply Center

DSCC Defense Supply Center Columbus
DSCP Defense Supply Center Philadelphia
DSCR Defense Supply Center Richmond
ESA Engineering Support Agency

ESOC Emergency Supply Operation Center FAR Federal Acquisition Regulation FSCAP Flight Safety Critical Aircraft Part

ICP Inventory Control Point
ILS Inventory Locator Service

IM Inventory Manager
IPG Inventory Priority Group

IRPOD Individual Repair Parts Ordering Data

ISO International Organization for Standardization

NAACS National Association of Aircraft and Communication Suppliers

NE New Equipment
NS New Surplus
OH On-Hand

PALT Production Acquisition Lead Time
PIM Procurement Information Memorandum

PR Purchase Requisition RFQs Request for Quotations

SAMMS Standard Automated Material Management System

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